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### (54) Multilayer coating film formation process

(57) A process to form a multilayer coating film, which is excellent in smoothness and capable of preventing a generation of popping even in case of a thick coating, characterized by that after a cationic electrodeposition coating is coated and cured by heating, an intermediate coating, comprising polymerizable unsaturated compound, photopolymerization initiator, thermal

polymerization initiator, and further optionally pigment and/or polyester resin and crosslinking agent, is coated, and said coating film is cured by irradiation with an actinic ray, and then a thermocurable top coating is coated and cured by heating, is disclosed.

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## EUROPEAN SEARCH REPORT

Application Number  
EP 98 12 0140

DOCUMENTS CONSIDERED TO BE RELEVANT		
Category	Citation of document with indication, where appropriate, of relevant passages	Relevant to claim
A	US 5 432 005 A (TANIGAMI HAJIME ET AL) 11 July 1995 (1995-07-11) —	B05D7/00
A	US 4 888 244 A (MASUBUCHI YOICHI ET AL) 19 December 1989 (1989-12-19) —	
The present search report has been drawn up for all claims		
Place of search	Date of completion of the search	Examiner
MUNICH	28 August 2002	Polesak, H
CATEGORY OF CITED DOCUMENTS		
X : particularly relevant if taken alone Y : particularly relevant if combined with another document of the same category A : technological background O : non-written disclosure P : Intermediate document		T : theory or principle underlying the invention E : earlier patent document, but published on, or after the filing date D : document cited in the application L : document cited for other reasons B : member of the same patent family, corresponding document

ANNEX TO THE EUROPEAN SEARCH REPORT  
ON EUROPEAN PATENT APPLICATION NO.

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This annex lists the patent family members relating to the patent documents cited in the above-mentioned European search report. The members are as contained in the European Patent Office EDP file on. The European Patent Office is in no way liable for these particulars which are merely given for the purpose of information.

28-08-2002

Patent document cited in search report		Publication date		Patent family member(s)	Publication date
US 5432005	A	11-07-1995	JP	2920026 B2	19-07-1999
			JP	6009925 A	18-01-1994
			GB	2268499 A , B	12-01-1994
US 4888244	A	19-12-1989	JP	1900851 C	27-01-1995
			JP	6026708 B	13-04-1994
			JP	62061675 A	18-03-1987
			DE	3630667 A1	12-03-1987